

FILE 'CAPLUS' ENTERED AT 14:58:20 ON 19 FEB 2004

L44 925 S (L2 OR L3 OR L5 OR L10 OR L11 OR L12) (L) (OXYG? OR OXID? OR  
L45 155913 S (L20 OR L21 OR L22 OR L23 OR L29 OR L30 OR L31 OR L32 OR L33  
L46 30 S L44 AND L45

=> d que

L2 28 SEA FILE=REGISTRY ALPHA TERPINEOL  
L3 5 SEA FILE=REGISTRY CITRONELLOL/CN OR NEROL/CN OR LINALOOL/CN OR  
PHYTOL/CN OR GERANIOL/CN  
L5 1 SEA FILE=REGISTRY PERILLYL ALCOHOL/CN  
L10 30 SEA FILE=REGISTRY GERANYL GERANIOL  
L11 30 SEA FILE=REGISTRY GERANYLGERANIOL  
L12 1 SEA FILE=REGISTRY FARNESOL/CN  
L20 1 SEA FILE=REGISTRY ROSE BENGAL/CN  
L21 2 SEA FILE=REGISTRY CHLOROPHYLLIN/CN  
L22 1 SEA FILE=REGISTRY HEMIN/CN  
L23 1 SEA FILE=REGISTRY CORRIN/CN  
L29 1 SEA FILE=REGISTRY METHYLENE BLUE/CN  
L30 1 SEA FILE=REGISTRY HEMATOXYLIN/CN  
L31 2 SEA FILE=REGISTRY EOSIN/CN  
L32 1 SEA FILE=REGISTRY ERYTHROSIN/CN  
L33 1 SEA FILE=REGISTRY LACTOFLAVIN/CN  
L35 82619 SEA FILE=REGISTRY ANTHRACENE  
L36 1 SEA FILE=REGISTRY ANTHRACENE/CN  
L37 1 SEA FILE=REGISTRY HYPERICIN/CN  
L38 1 SEA FILE=REGISTRY METHYLCHOLANTHRENE/CN  
L39 1 SEA FILE=REGISTRY NEUTRAL RED/CN  
L40 1 SEA FILE=REGISTRY FLUORESCEIN/CN  
L42 1 SEA FILE=REGISTRY TEXAPHYRIN/CN  
L44 925 SEA FILE=CAPLUS (L2 OR L3 OR L5 OR L10 OR L11 OR L12) (L)  
(OXYG? OR OXID? OR OXYGEN OR OZON?)  
L45 155913 SEA FILE=CAPLUS (L20 OR L21 OR L22 OR L23 OR L29 OR L30 OR L31  
OR L32 OR L33 OR L35 OR L36 OR L37 OR L38 OR L39 OR L40 OR  
L42)  
L46 30 SEA FILE=CAPLUS L44 AND L45

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L46 ANSWER 1 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

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TI Speciation of volatile organic compound emissions for regional air quality modeling of particulate matter and ozone

AU Makar, P. A.; Moran, M. D.; Scholtz, M. T.; Taylor, A.

CS Modelling and Integration Division, Air Quality Research Branch, Meteorological Service of Canada, Toronto, ON, Can.

SO Journal of Geophysical Research, [Atmospheres] (2003), 108(D2), ACH 2/1-ACH 2/51

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PB American Geophysical Union

DT Journal

LA English

AB A new classification scheme for speciation of org. compd. emissions for use in air quality models is described. This scheme uses 81 org. compd. classes to preserve net gas-phase reactivity and particulate matter (PM) formation potential. Chem. structure, vapor pressure, OH- reactivity, f.p./b.p., and soly. data were used to create the 81 compd. classes. Volatile, semi-volatile, and non-volatile org. compds. are included. This classification scheme was used in conjunction with the Canadian Emissions Processing System (CEPS) to process 1990 gas- and particle-phase org. compd. emissions data for summer and winter for a domain covering much of eastern North America. A simple post-processing model analyzed speciated org. emissions in terms of gas-phase reactivity and potential to form org. PM. Previously unresolved compd. classes which may significantly affect O3 formation included biogenic high-reactivity esters and internal C6-8 alkene-alcs. and anthropogenic ethanol and propanol. Org. radical prodn. assocd. with anthropogenic org. compd. emissions may be .gtoreq.1 orders of magnitude more important than biogenic-assocd. prodn. in northern USA and Canadian cities, and a factor of 3 more important in southern US cities. Previously unresolved org. compd. classes, e.g., low vapor pressure polycyclic arom. hydrocarbons (PAH), anthropogenic diacids, dialkyl phthalates, and high C no. alkanes, may have a significant impact on org. particle formation. Primary org. particles (poorly characterized in national emissions databases) dominate total org. particle concns., followed by secondary formation and primary gas-particle partitioning. The effect of the assumed initial aerosol water concn. on subsequent thermodyn. calcns. suggested hydrophobic and hydrophilic compds. may form external mixts., and that sep. treatment for these groups may be required in future air quality model simulations. The post-processing model used overestimated org. particle formation relative to measurements, lacked the complexity of a regional air quality model, and was not intended as an alternative to the latter. However, post-processing model results do provide guidance for treating org. gases and particles in future air quality modeling work. Future air quality model simulations should attempt to speciate primary particulate org. compds. and include more detailed org. compd. classes. Future emissions profile measurements should speciate gaseous high mol. mass org. compds. and primary orgs. emitted in particulate form (primary particle emissions are only available as a total particulate mass in currently available missions data).

RE.CNT 86 THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 50-00-0, Formaldehyde, reactions 50-32-8, Benzo(a)pyrene, reactions 53-70-3, Dibenz[a,h]anthracene 56-23-5, Carbon tetrachloride, reactions 56-55-3, Benzo(a)anthracene 56-55-3D, Benzanthrane, alkyl derivs. 56-81-5, Glycerol, reactions 57-10-3, Palmitic acid, reactions 57-55-6, Propylene glycol, reactions 60-29-7, Ethylether, reactions 62-53-3, Aniline, reactions 64-17-5, Ethyl

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RL: OCU (Occurrence, unclassified); POL (Pollutant); RCT (Reactant); OCCU (Occurrence); RACT (Reactant or reagent)

(volatile org. compd. emission speciation for modeling regional air quality and particulate matter and **ozone** formation)

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 1320-16-7 1320-37-2, Dichlorotetrafluoroethane 1321-60-4,  
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 3875-51-2, Isopropylcyclopentane 4032-94-4, 2,4-Dimethyloctane  
 4038-04-4 4050-45-7, trans-2-Hexene 4170-30-3, Crotonaldehyde  
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 25321-22-6, Dichlorobenzene 25322-68-3, Polyethylene glycol  
 25339-53-1D, Decene, Me derivs.

RL: OCU (Occurrence, unclassified); POL (Pollutant); RCT (Reactant); OCCU

(Occurrence); RACT (Reactant or reagent)

(volatile org. compd. emission speciation for modeling regional air quality and particulate matter and ozone formation)

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25377-83-7, Octene 25378-22-7, Dodecene 25495-88-9, Methylhexane  
25550-57-6, Toluene isocyanate 25551-13-7, Trimethylbenzene  
25619-60-7, Tetramethylbenzene **25620-59-1**, Aminoanthraquinone  
26471-62-5, Toluene diisocyanate 26519-91-5, Methylcyclopentadiene  
26760-64-5, Methylbutene 26856-30-4, Hexyne 26856-31-5D, Heptyne, Me  
derivs. 26856-36-0, Pentyne **26914-18-1**, Methylanthracene  
27133-93-3, Methylindan 27138-19-8, Ethylnaphthalene 27195-67-1,  
Dimethylcyclohexane 27208-37-3, Cyclopenta(cd)pyrene 27215-95-8,  
Nonene 27215-95-8D, Nonene, Me derivs. 27252-25-1, Ethylfuran  
27378-74-1, Propylnaphthalene 27476-50-2, Methylcyclopentene  
28106-30-1, Ethylstyrene 28258-89-1, Decahydromethylnaphthalene  
28652-72-4, Methylbiphenyl 28652-77-9, Trimethylnaphthalene  
28729-52-4, Dimethylcyclopentane 28761-27-5, Undecene 28777-67-5,  
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Methylindene 29222-48-8, Trimethylpentane 29224-55-3,  
Ethyl dimethylbenzene 29299-43-2, Heptanone 29348-63-8, Dimethylindene  
29606-79-9, Isopulegone 29718-36-3, Dimethylbenzylalcohol 29828-28-2,  
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Trimethylcyclopentane 30498-66-9, Dimethylheptane 30640-46-1,  
Methylcyclohexadiene 30677-34-0 30702-87-5, Octatriene 30997-39-8,  
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Methylpentene 38719-68-5, Dimethylbutane 38815-29-1, Dimethylpentane  
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57982-68-0, Methoxynaphthalene 58615-36-4, Dibenzopyrene 58770-24-4,  
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Dimethylcyclopentene 61193-19-9, Methyl octane 61193-21-3, Methyldecane  
61593-45-1, Ethyl methylcyclopentane 62016-34-6 62183-95-3 62185-54-0  
63335-87-5, Methyl nonane 63335-88-6, Dimethyloctane 64800-83-5,  
Ethyl phenylphenylethane 65436-56-8, Methyl ethylheptane 65777-08-4D,  
Benzophenanthrene, alkyl derivs. 67784-41-2, Cyclopentane, tetramethyl-  
68678-89-7, Nonene 69852-93-3, Dimethylpentene 71030-52-9, Nonadiene  
73467-76-2, Benzopyrene 73506-81-7, Hexadienal 73560-82-4 74912-52-0  
78820-81-2, Methylheptene 78820-82-3, Dimethylhexene 79004-86-7,  
Trimethylheptane 80455-52-3, Cyclopentaphenanthrene 81455-44-9,  
Methylhexadiene 81624-04-6, Heptene 82162-00-3, Cyclohexane,  
diethylmethyl- 85528-07-0, Ethyl dimethylphenol 85870-31-1, Heptadienal  
86368-23-2 90346-45-5 91144-32-0, Pentyne 93862-10-3,  
Dimethylheptanol 95461-54-4, Trimethylhexene 98060-53-8,  
Ethylmethyl octane 98060-54-9, Trimethyldecane 109201-63-0,  
Butylisopropylphthalate 158538-52-4D, 292648 177088-56-1  
208038-45-3, Octane, ethyl- 211180-47-1, Ethylpropylcyclohexane  
RL: OCU (Occurrence, unclassified); POL (Pollutant); RCT (Reactant); OCCU  
(Occurrence); RACT (Reactant or reagent)  
(volatile org. compd. emission speciation for modeling regional air  
quality and particulate matter and ozone formation)

L46 ANSWER 2 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:777646 CAPLUS

DN 137:284357

TI Targeted oxidative therapeutic formulation for arteriosclerosis treatment

IN Carpenter, Robert H.

PA Hofmann, Robert F., USA

SO PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002078623	A2	20021010	WO 2002-US9089	20020322
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2002177585	A1	20021128	US 2001-822773	20010330
PRAI	US 2001-822773	A	20010330		

AB The use of a pharmaceutical formulation in treating coronary arteriosclerosis and a 2-component pharmaceutical formulation are disclosed. The pharmaceutical formulation contains peroxidic species or reaction products resulting from oxidn. of an alkene, such as geraniol, by an oxygen-contg. oxidizing agent, such as ozone; a penetrating solvent, such as DMSO, a dye contg. a chelated metal, such as hematoporphyrin; and an arom. redox compd., such as benzoquinone. A pharmaceutical formulation was prepd. by sparging an ozone/pure oxygen gas mixt. of 120 mg/L up through geraniol at 1 L gas/h, maintaining the temp. at 5.degree., stopping the reaction when more than about 50% of the available unsatd. bonds have been reacted, and dilg. the product mixt. DMSO (1:10) to give a soln. or dispersion. Prior to use in the target biol. system, a mixt. of hematoporphyrin, Rose Bengal, and methylnaphthoquinone dry powders was added to the soln. or dispersion in sufficient quantity to create a concn. of 20 .mu.M of each component dispersed therein when delivered to the target biol. system by saline i.v. infusion.

IT **106-24-1**, Geraniol  
RL: FMU (Formation, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); FORM (Formation, nonpreparative); RACT (Reactant or reagent); USES (Uses)

(ozonation; targeted oxidative therapeutic formulation for arteriosclerosis treatment)

IT **78-70-6**, Linalool **89-78-1**, Menthol **106-22-9**, Citronellol **106-25-2**, Nerol **123-35-3**, Myrcene **138-86-3**, Limonene **150-86-7**, Phytol **372-75-8**, Citrulline **1330-16-1**, Pinene **4602-84-0**, Farnesol **5392-40-5**, Citral **7299-42-5**, .DELTA.-Terpineol **24034-73-9**  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(targeted oxidative therapeutic formulation for arteriosclerosis treatment)

IT **50-81-7**, Ascorbic acid, biological studies **56-49-5**, Methylcholanthrene **57-55-6**, Propylene glycol, biological studies **58-27-5** **61-73-4**, Methylene blue **64-17-5**, Ethanol, biological studies **67-68-5**, DMSO, biological studies **67-71-0**, Methylsulfonylmethane **83-88-5**, Lactoflavin, biological studies **106-51-4**, 2,5-Cyclohexadiene-1,4-dione, biological studies **130-15-4**, 1,4-Naphthalenedione **517-28-2**, Hematoxylin **536-59-4**, Perillyl alcohol **548-04-9**, Hypericin **553-24-2**, Neutral red **2321-07-5**, Fluorescein **7439-89-6**, Iron, biological studies **7439-95-4**, Magnesium, biological studies **7439-96-5**, Manganese, biological studies **7440-24-6**, Strontium, biological studies **7440-31-5**, Tin, biological studies **7440-50-8**, Copper, biological studies

7440-50-8D, Copper, reaction with sodium chlorophyllins 7440-56-4D,  
Germanium, oxides 9003-39-8, PVP 11121-48-5, Rose bengal  
14459-29-1, Hematoporphyrin 16009-13-5, Hemin 16423-68-0  
, Erythrosin 17372-87-1, Eosin 189752-49-6, Texaphyrin  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(targeted **oxidative** therapeutic formulation for  
arteriosclerosis treatment)

L46 ANSWER 3 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:777645 CAPLUS  
DN 137:284356  
TI Targeted oxidative therapeutic formulation  
IN Hofmann, Robert F.  
PA USA  
SO PCT Int. Appl., 27 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002078622	A2	20021010	WO 2002-US9088	20020322
	WO 2002078622	A3	20030313		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2003032677	A1	20030213	US 2001-823252	20010330
	EP 1385525	A2	20040204	EP 2002-757804	20020322
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
PRAI	US 2001-823252	A	20010330		
	WO 2002-US9088	W	20020322		

AB A pharmaceutical formulation contains peroxide species or reaction products resulting from oxidn. of an alkene, such as geraniol, by an oxygen-contg. oxidizing agent such as ozone; a penetrating solvent, such as DMSO, a dye contg. a chelated metal, such as hematoporphyrin; and a arom. redox compd., such as benzoquinone. The pharmaceutical formulation is used to treat horses infected with Sarcocystis protozoal infections. A pharmaceutical formulation was prepd. by sparging an ozone/pure oxygen gas mixt. of 120 mg/L up through geraniol at 1 L gas/h, maintaining the temp. at 5.degree., stopping the reaction when more than about 50% of the available unsatd. bonds have been reacted, and dilg. the product mixt. DMSO (1:10) to give a soln. or dispersion. Prior to use in the target biol. system, a mixt. of hematoporphyrin, Rose Bengal, and methyl-naphthoquinone dry powders was added to the soln. or dispersion in sufficient quantity to create a concn. of 20 .mu.M of each component dispersed therein when delivered to the target biol. system by saline i.v. infusion.

IT 106-24-1, Geraniol  
RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)  
(ozonated; targeted **oxidative** therapeutic formulation)

IT 78-70-6, Linalool 89-78-1, Menthol 106-22-9,  
Citronellol 106-25-2, Nerol 123-35-3, Myrcene 138-86-3,  
Limonene 150-86-7, Phytol 372-75-8, Citrulline 1330-16-1,



Pinene **4602-84-0**, Farnesol 5392-40-5, Citral 7299-42-5,

.DELTA.-Terpineol **24034-73-9**

RL: RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(targeted **oxidative** therapeutic formulation)

IT 50-81-7, Ascorbic acid, biological studies **56-49-5**,  
Methylcholanthrene 57-55-6, Propylene glycol, biological studies  
**61-73-4**, Methylene blue 64-17-5, Ethanol, biological studies  
67-68-5, DMSO, biological studies 67-71-0, Methylsulfonylmethane  
**83-88-5**, Lactoflavin, biological studies 106-51-4,  
2,5-Cyclohexadiene-1,4-dione, biological studies 130-15-4,  
1,4-Naphthalenedione **517-28-2**, Hematoxylin **536-59-4**,  
Perillyl alcohol **548-04-9**, Hypericin **553-24-2**, Neutral  
red **2321-07-5**, Fluorescein 7439-89-6, Iron, biological studies  
7439-95-4, Magnesium, biological studies 7439-96-5, Manganese,  
biological studies 7440-24-6, Strontium, biological studies 7440-31-5,  
Tin, biological studies 7440-50-8, Copper, biological studies  
7440-50-8D, Copper, reaction with sodium chlorophyllin 7440-56-4D,  
Germanium, reaction with oxides 9003-39-8, Polyvinylpyrrolidone  
**11121-48-5**, Rose bengal 14459-29-1, Hematoporphyrin  
**16009-13-5**, Hemin **16423-68-0**, Erythrosin  
**17372-87-1**, Eosin 29595-63-9 **189752-49-6**, Texaphyrin  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(targeted **oxidative** therapeutic formulation)

L46 ANSWER 4 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:691656 CAPLUS

DN 137:369906

TI Manganese-Catalyzed Epoxidations of Alkenes in Bicarbonate Solutions

AU Lane, Benjamin S.; Vogt, Matthew; DeRose, Victoria J.; Burgess, Kevin

CS Department of Chemistry, Texas A&M University, College Station, TX,  
77842-3012, USA

SO Journal of the American Chemical Society (2002), 124(40), 11946-11954  
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

OS CASREACT 137:369906

AB Epoxides were prepd. from a variety of alkenes in 51-99% yields by epoxidn. of alkenes in sodium bicarbonate buffer in the presence of manganese (II) sulfate with hydrogen peroxide as the terminal oxidant. A variety of metal catalysts were screened for epoxidn. activity; only manganese salts gave effective yields of epoxides, particularly manganese (II) salts. Many additives were screened; when tert-butanol is used as the cosolvent, sodium acetate is the most effective additive, while when DMF is used as a cosolvent, salicylic acid is the most effective additive. The effectiveness of additive depends on the concn. of additive; at higher concns., the beneficial effects of additives decrease, in some cases decreasing the yields of epoxides. 6 Mol% of sodium acetate and 4 mol% of salicylic acid were found to be the optimal amts. of additives when tert-butanol and DMF were used, resp., as cosolvents for epoxidn. The additives increased the rates of epoxidn. by 100-200%, gave higher yields with less reactive alkenes, and decreased the amt. of hydrogen peroxide necessary for complete reaction. Epoxides were prepd. from aryl-substituted, cyclic, and trialkyl-substituted alkenes using 10 equiv of hydrogen peroxide; terminal monosubstituted alkenes such as 1-octene did not react, even in the presence of additives. Peroxymonocarbonate, HCO<sub>4</sub><sup>-</sup>, is formed in the manganese-catalyzed epoxidns. in sodium bicarbonate buffer with either tert-butanol or DMF as cosolvents as detected by <sup>13</sup>C NMR; without manganese, minimal epoxidn. activity is obsd. The yield of epoxide falls as the pH value of the buffer increases, implying that peroxybicarbonate is the oxidant in soln. rather than

peroxycarbonate. EPR studies show that manganese (II) ions are initially consumed but are regenerated toward the end of the epoxidn., presumably when the hydrogen peroxide is spent. Possible mechanisms for the reaction are discussed. Manganese (II) salts are less toxic and less expensive than other epoxidn. catalysts, do not require ligands, and act as epoxidn. catalysts in nontoxic and inexpensive solvents. The ready isolation of products by neutral extn. both provides product more simply and inexpensively than other methods and allows for simple prepn. and isolation of acid-sensitive epoxides which in other methods decompd. under acidic workup conditions.

RE.CNT 97 THERE ARE 97 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 84-65-1P, 9,10-Anthraquinone

RL: BYP (Byproduct); PREP (Preparation)

(overoxidn. byproduct in the stereoselective prepn. of epoxides by epoxidn. of alkenes in bicarbonate buffer hydrogen peroxide as the terminal oxidant in the presence of MnSO<sub>4</sub>)

IT 78-70-6, Linalool 80-56-8, .alpha.-Pinene 97-41-6 98-83-9,  
.alpha.-Methylstyrene, reactions 100-42-5, Styrene, reactions  
103-30-0, trans-Stilbene 106-23-0 110-83-8, Cyclohexene, reactions  
447-53-0, 1,2-Dihydronaphthalene 556-82-1, 3-Methyl-2-buten-1-ol  
563-79-1, 2,3-Dimethyl-2-butene 760-21-4, 3-Methylenepentane 771-98-2,  
1-Phenyl-1-cyclohexene 931-87-3, cis-Cyclooctene 1075-49-6,  
4-Vinylbenzoic acid 1914-58-5 4407-36-7, trans-Cinnamyl alcohol  
7642-15-1, cis-4-Octene 14850-23-8, trans-4-Octene 56136-14-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(stereoselective prepn. of epoxides by epoxidn. of alkenes in bicarbonate buffer with either tBuOH or DMF as cosolvents and hydrogen peroxide as the terminal oxidant in the presence of MnSO<sub>4</sub> and either sodium acetate or salicylic acid)

L46 ANSWER 5 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:386166 CAPLUS

DN 137:201007

TI "Dark" singlet oxygenation of hydrophobic substrates in environmentally friendly microemulsions

AU Nardello, Veronique; Herve, Melanie; Alsters, Paul L.; Aubry, Jean-Marie  
CS LCOM, Equipe de Recherches "Oxydation et Formulation", ESA CNRS 8009, ENSCL, Villeneuve d'Ascq, 59652, Fr.

SO Advanced Synthesis & Catalysis (2002), 344(2), 184-191  
CODEN: ASCAF7; ISSN: 1615-4150

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

OS CASREACT 137:201007

AB The molybdate-catalyzed "dark" singlet oxygenation of hydrophobic compds. with hydrogen peroxide proceeds efficiently with low catalyst loadings (10-3 mol%) in chlorine-free w/o microemulsions. These micro-heterogeneous systems are composed of sodium dodecyl sulfate (SDS)/n-butanol/water/org. phase, the latter being either a "green" solvent such as Et acetate or a liq. substrate, such as .alpha.-terpinene or .beta.-citronellol. Very high reactor yields with improved product/SDS ratio can be obtained for the "dark" singlet oxygenation of such liq. substrates.

RE.CNT 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 512-85-6P, Ascaridole 15257-17-7P, 9,10-Diphenylanthracene  
endoperoxide 81113-73-7P 81113-74-8P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

("dark" singlet oxygenation of hydrophobic substrates in environmentally friendly microemulsions)

IT 99-86-5, .alpha.-Terpinene **106-22-9**, .beta.-Citronellol  
**1499-10-1**, 9,10-Diphenylanthracene  
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
("dark" singlet **oxygenation** of hydrophobic substrates in  
environmentally friendly microemulsions)

L46 ANSWER 6 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:198547 CAPLUS

DN 136:385713

TI Calcium Peroxide Diperoxohydrate as a Storable Chemical Generator of  
Singlet Oxygen for Organic Synthesis

AU Pierlot, Christel; Nardello, Veronique; Schrive, Jordane; Mabilie,  
Caroline; Barbillat, Jacques; Sombret, Bernard; Aubry, Jean-Marie

CS LCOM, Equipe Oxydation et Formulation, ESA CNRS 8009, ENSCL, Villeneuve  
d'Ascq, F-59652, Fr.

SO Journal of Organic Chemistry (2002), 67(8), 2418-2423

CODEN: JOCEAH; ISSN: 0022-3263

PB American Chemical Society

DT Journal

LA English

OS CASREACT 136:385713

AB Calcium peroxide diperoxohydrate (CaO<sub>2</sub>.cntdot.2H<sub>2</sub>O<sub>2</sub>) is an environmentally  
friendly generator of singlet oxygen (1O<sub>2</sub>, 1.DELTA.g) that can be used in  
org. synthesis as an alternative to the regular photochem. method. This  
compd. produces 1O<sub>2</sub> in various solvents and can be easily recovered by  
filtration for further regeneration. Both monitoring of 1O<sub>2</sub> luminescence  
at 1270 nm and specific trapping have shown that CaO<sub>2</sub>.cntdot.2H<sub>2</sub>O<sub>2</sub> can be  
stored for several days at -80.degree. and that the yield of 1O<sub>2</sub> is equal  
to 25%. Oxidn. of typical org. substrates in methanol or THF through [4 +  
2] or [2 + 2] cycloaddn. and ene reaction have been carried out on a  
preparative scale with total conversion and selectivity.

RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 99-86-5, .alpha.-Terpinene **106-22-9**, .beta.-Citronellol  
479-33-4, Tetraphenylcyclopentadienone 517-51-1, Rubrene  
**1499-10-1**, 9,10-Diphenylanthracene 5471-63-6,  
1,3-Diphenylisobenzofuran 7722-84-1, Hydrogen peroxide, reactions  
10043-52-4, Calcium chloride, reactions 30541-56-1,  
Adamantylideneadamantane

RL: RCT (Reactant); RACT (Reactant or reagent)

(calcium peroxide diperoxohydrate as storable chem. generator of  
singlet **oxygen** for org. synthesis)

IT 512-85-6P 1159-86-0P, 1,2-Dibenzoylbenzene 7510-34-1P

**15257-17-7P** 32287-37-9P 35544-39-9P 81113-73-7P

81113-74-8P

RL: SPN (Synthetic preparation); PREP (Preparation)

(calcium peroxide diperoxohydrate as storable chem. generator of  
singlet oxygen for org. synthesis)

L46 ANSWER 7 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:207626 CAPLUS

DN 135:33219

TI 3,5-Dimethylpyrazolium fluorochromate(VI), C<sub>5</sub>H<sub>8</sub>N<sub>2</sub>H[CrO<sub>3</sub>F], (DmpzHFC): a  
convenient new reagent for oxidation of organic substrates

AU Bora, U.; Chaudhuri, M. K.; Dey, D.; Kalita, D.; Kharmawphlang, W.;  
Mandal, G. C.

CS Department of Chemistry, Indian Institute of Technology, Guwahati, 781031,  
India

SO Tetrahedron (2001), 57(12), 2445-2448

CODEN: TETRAB; ISSN: 0040-4020

PB Elsevier Science Ltd.

DT Journal

LA English  
OS CASREACT 135:33219  
AB A new chromium(VI) reagent, 3,5-dimethylpyrazolium fluorochromate, C<sub>5</sub>H<sub>8</sub>N<sub>2</sub>H[CrO<sub>3</sub>F] (DmpzHFC), was prepd. by treating 3,5-dimethylpyrazole with CrO<sub>3</sub> and aq. HF and was used for the selective oxidn. of primary, secondary and allylic alcs. to the corresponding carbonyl compds., polycyclic hydrocarbons to cyclic ketones and allylic .DELTA.5-steroids to the corresponding .alpha.,.beta.-unsatd. ketones.

RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 56-81-5, Glycerol, reactions 67-51-6, 3,5-Dimethylpyrazole 71-36-3, 1-Butanol, reactions 85-01-8, Phenanthrene, reactions **90-44-8**, Anthrone 100-51-6, Benzyl alcohol, reactions **106-22-9**, Citronellol **106-24-1**, Geraniol 107-18-6, 2-Propen-1-ol, reactions 108-93-0, Cyclohexanol, reactions 119-53-9, Benzoin **120-12-7**, Anthracene, reactions 603-35-0, Triphenylphosphine, reactions 604-32-0 604-35-3, Cholesterol 3-acetate 1490-04-6, Menthol 1730-48-9, 6-Methoxytetralin 1778-02-5, Pregnenolone acetate  
RL: RCT (Reactant); RACT (Reactant or reagent)

(3,5-dimethylpyrazolium fluorochromate(VI), a convenient new reagent for oxidn. of org. substrates)

IT 56-82-6P, Glyceraldehyde 84-11-7P, 9,10-Phenanthrenequinone **84-65-1P**, 9,10-Anthraquinone 89-80-5P, Menthone 100-52-7P, Benzaldehyde, preparation 106-23-0P, Citronellal 107-02-8P, Acrolein, preparation 108-94-1P, Cyclohexanone, preparation 123-72-8P, Butanal 134-81-6P, Benzil 141-27-5P, Geranial 791-28-6P, Triphenylphosphine oxide 809-51-8P, 7-Oxcholesterol 3-acetate 1078-19-9P, 6-Methoxy-1-tetralone 6748-09-0P 6997-41-7P  
RL: SPN (Synthetic preparation); PREP (Preparation)

(3,5-dimethylpyrazolium fluorochromate(VI), a convenient new reagent for oxidn. of org. substrates)

L46 ANSWER 8 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:164036 CAPLUS

DN 130:267001

TI Highly efficient oxidation of alcohols and aromatic compounds catalyzed by the Ru-Co-Al hydrotalcite in the presence of molecular oxygen

AU Matsushita, Tsuyoshi; Ebitani, Kohki; Kaneda, Kiyotomi

CS Department of Chemical Science and Engineering, Graduate School of Engineering Science, Osaka University, Toyonaka, Osaka, 560-8531, Japan

SO Chemical Communications (Cambridge) (1999), (3), 265-266

CODEN: CHCOFS; ISSN: 1359-7345

PB Royal Society of Chemistry

DT Journal

LA English

OS CASREACT 130:267001

AB The ruthenium hydrotalcite having cobalt cations, Ru-Co-Al-CO<sub>3</sub> HT, is an effective heterogeneous catalyst for the oxidn. of various kinds of alcs. in the presence of mol. oxygen.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 86-73-7, Fluorene 91-01-0, Diphenylmethanol **92-83-1**, Xanthene 98-85-1, 1-Phenylethanol 100-51-6, Benzyl alcohol, reactions 101-81-5, Diphenylmethane 104-54-1, Cinnamyl alcohol **106-24-1** **106-25-2** 111-28-4, 2,4-Hexadien-1-ol 123-96-6, 2-Octanol 586-98-1, 2-(Hydroxymethyl)pyridine 589-18-4, 4-Methylbenzyl alcohol 636-72-6, 2-(Hydroxymethyl)thiophene 873-76-7, 4-Chlorobenzyl alcohol 1504-55-8 4780-79-4, 1-(Hydroxymethyl)naphthalene  
RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidn. of alcs. and arom. compds. catalyzed by the Ru-Co-Al hydrotalcite in the presence of mol. oxygen)

L46 ANSWER 9 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:386095 CAPLUS

DN 127:108560

TI A versatile cobalt(II)-Schiff base catalyzed oxidation of organic substrates with dioxygen: scope and mechanism

AU Punniyamurthy, T.; Bhatia, Beena; Reddy, M. Madhava; Maikap, Golak C.; Iqbal, Javed

CS Dep. Chemistry, Indian Inst. Technol., Kanpur, 208 016, India

SO Tetrahedron (1997), 53(22), 7649-7670

CODEN: TETRAB; ISSN: 0040-4020

PB Elsevier

DT Journal

LA English

OS CASREACT 127:108560

AB Cobalt(II) complexes derived from Schiff bases act as efficient catalysts during the oxidn. of wide range of org. substrates (e.g. alkenes, alcs., benzylic compds. and aliph. hydrocarbons) with dioxygen in the presence of aliph. aldehydes or ketones or ketoesters. EPR studies on the catalysts suggest that the aliph. carbonyl compds. promote the formation of a cobalt(III)-superoxo species responsible for the oxidn. of org. compds. These studies also demonstrate the role of ligands on cobalt in controlling the chemoselectivity of these oxidns. A plausible mechanistic rational is also provided for these oxidns.

RE.CNT 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 57-88-5, Cholesterol, reactions 71-43-2, Benzene, reactions 78-84-2, 2-Methylpropanal 79-92-5, Camphene 86-73-7, Fluorene 90-02-8, Salicylaldehyde, reactions 95-13-6, Indene 97-42-7 98-82-8, Isopropylbenzene 98-83-9, reactions 99-48-9, Carveol 100-41-4, Ethylbenzene, reactions 101-81-5, Diphenylmethane 103-36-6, Ethyl cinnamate 103-50-4, Dibenzyl ether 103-65-1, Propylbenzene 106-24-1 108-87-2, Methylcyclohexane 110-82-7, Cyclohexane, reactions 110-83-8, Cyclohexene, reactions 118-10-5, Cinchonine 119-64-2, Tetralin 120-12-7, Anthracene, reactions 138-86-3 142-29-0, Cyclopentene 292-64-8, Cyclooctane 475-20-7, Longifolene 496-11-7, Indane 529-02-2 604-32-0, Cholesteryl benzoate 604-35-3, Cholesteryl acetate 611-10-9, Ethyl 2-oxocyclopentanecarboxylate 628-92-2, Cycloheptene 827-52-1, Cyclohexylbenzene 1061-54-7, Diosgenin acetate 1490-04-6, Menthol 1817-50-1, 2-Decen-5-yn-4-ol 3417-91-2, Tyrosine methyl ester hydrochloride 4651-48-3, Stigmasterol acetate 5680-80-8, L-Serine methyl ester hydrochloride 5989-27-5, D-Limonene 6306-52-1, L-Valine methyl ester hydrochloride 6901-97-9 7524-50-7, L-Phenylalanine methyl ester hydrochloride 13080-90-5, Bicyclo[2.2.1]hept-5-en-2-ol 13466-78-9, 3-Carene 25564-22-1 29548-30-9 39994-75-7, L-Threonine methyl ester hydrochloride 92860-58-7 192442-92-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(cobalt(II)-Schiff base catalyzed oxidn. of org. substrates with dioxygen)

IT 65-85-0P, Benzoic acid, preparation 84-65-1P, Anthraquinone 93-55-0P, Propiophenone 98-86-2P, Acetophenone, preparation 99-49-0P 106-51-4P, 2,5-Cyclohexadiene-1,4-dione, preparation 108-93-0P, Cyclohexanol, preparation 108-94-1P, Cyclohexanone, preparation 119-61-9P, Benzophenone, preparation 121-39-1P 141-27-5P 286-20-4P, Cyclohexene oxide 474-09-9P 486-25-9P, Fluorenone 502-42-1P, Cycloheptanone 502-49-8P, Cyclooctanone 590-67-0P, 1-Methylcyclohexanol 601-54-7P, Cholest-5-en-3-one 615-13-4P, 2-Indanone 694-98-4P, Bicyclo[2.2.1]hept-5-en-2-one 696-71-9P, Cyclooctanol 771-98-2P 809-51-8P 822-67-3P, 2-Cyclohexenol 930-68-7P, 2-Cyclohexenone 1121-66-0P, 2-Cycloheptenone 1195-92-2P 2085-88-3P 2225-98-1P 3212-60-0P, 2-Cyclopentenol 4025-59-6P 4092-57-3P 4092-61-9P 7329-28-4P, 3-Oxatricyclo[3.2.1.0<sup>2,4</sup>]octan-6-ol

10458-14-7P 13944-75-7P 15932-80-6P 29059-07-2P, Tetralone  
29442-57-7P 30155-20-5P 30286-23-8P, Indanone 33028-07-8P  
33204-74-9P 37677-81-9P 51646-05-0P 56423-46-2P 62318-94-9P  
66965-00-2P 105363-19-7P, 2-Decen-5-yn-4-one 131897-36-4P  
152436-60-7P 154828-89-4P 157686-39-0P 192442-96-9P 192443-06-4P  
192586-03-1P 192586-04-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(cobalt(II)-Schiff base catalyzed oxidn. of org. substrates with  
dioxxygen)

L46 ANSWER 10 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:335294 CAPLUS

DN 126:343150

TI Preparative Oxidation of Organic Compounds in Microemulsions with Singlet  
Oxygen Generated Chemically by the Sodium Molybdate/Hydrogen Peroxide  
System

AU Aubry, Jean-Marie; Bouttemy, Sabine

CS Faculte de Pharmacie de Lille, CNRS URA 351, Lille, F-59006, Fr.

SO Journal of the American Chemical Society (1997), 119(23), 5286-5294

CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

OS CASREACT 126:343150

AB A reverse (water in oil) microemulsion has been designed to oxidize  
hydrophobic org. substrates with singlet oxygen ( $^1O_2$ , 1.DELTA.g) generated  
by the disproportionation of hydrogen peroxide catalyzed by molybdate  
ions. The microemulsion was prepd. by mixing methylene chloride, SDS,  
1-butanol, and aq. molybdate. Steady-state and flash photolysis studies  
have shown that in such media singlet oxygen exhibits a kinetic behavior  
similar to that under homogeneous conditions ( $\tau$ .DELTA. .apprxq. 42  
.mu.s). Various typical org. substrates have been oxidized on a  
preparative scale with this chem. generated singlet oxygen, and the  
expected oxidn. products have been isolated in high yields.

IT 99-86-5, .alpha.-Terpinene 106-22-9, .beta.-Citronellol  
139-66-2, Diphenyl sulfide 479-33-4, Tetracyclone 517-51-1,  
Naphthacene, 5,6,11,12-tetraphenyl- 538-74-9, Dibenzyl sulfide  
1499-10-1, Anthracene, 9,10-diphenyl- 5471-63-6,  
1,3-Diphenylisobenzofuran 7340-90-1, Benzenethiol, 5-(1,1-dimethylethyl)-  
2-methyl- 7722-84-1, Hydrogen peroxide, reactions 30541-56-1,  
Adamantylideneadamantane

RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn. of org. compds. by singlet oxygen in  
microemulsions)

IT 127-63-9P, Diphenyl sulfone 512-85-6P 620-32-6P, Dibenzyl sulfone  
621-08-9P, Dibenzyl sulfoxide 1159-86-0P, 1,2-Dibenzoylbenzene  
6313-26-4P, 2-Butene-1,4-dione, 1,2,3,4-tetraphenyl-, (Z)-  
15257-17-7P 25589-81-5P, Benzenesulfonic acid,  
5-(1,1-dimethylethyl)-2-methyl- 32287-37-9P 35544-39-9P 81113-74-8P  
190061-33-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(oxidn. of org. compds. by singlet oxygen in microemulsions)

L46 ANSWER 11 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:649795 CAPLUS

DN 125:275435

TI Process for the selective oxidation of organic compounds using  
ferromagnetic chromium dioxide followed by magnetic separation of the used  
oxidant

IN Lee, Ross Albert

PA E. I. Du Pont de Nemours & Co., USA

SO Eur. Pat. Appl., 6 pp.

CODEN: EPXXDW

DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 735014	A1	19961002	EP 1996-103929	19960313
	EP 735014	B1	20000809		
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
	US 5698744	A	19971216	US 1995-414966	19950331
	CN 1140704	A	19970122	CN 1996-104292	19960329
	CN 1090156	B	20020904		
	JP 08277231	A2	19961022	JP 1996-79200	19960401
PRAI	US 1995-414966	A	19950331		
OS	CASREACT 125:275435				

AB In the title process, selective oxidns. were conducted using ferromagnetic chromium dioxide, followed by a magnetic sepn. of the used oxidant from the oxidized product. Thus, anthracene was dissolved in THF and oxidized with ferromagnetic chromium dioxide, producing anthraquinone. The used oxidant was sepd. from the anthraquinone by placing the reaction vessel in a magnetic field and pouring off the product and solvent.

IT 91-01-0, Benzhydrol 100-51-6, Benzyl alcohol, reactions 104-54-1, Cinnamyl alcohol **106-24-1**, Geraniol 111-87-5, 1-Octanol, reactions 119-53-9, Benzoin **120-12-7**, Anthracene, reactions 15008-36-3, Bis(4-diethylamino-2-methylphenyl)phenylmethane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(process for the selective oxidn. of org. compds. using ferromagnetic chromium dioxide followed by magnetic sepn. of the used oxidant)

IT **84-65-1P**, Anthraquinone 100-52-7P, Benzaldehyde, preparation 104-55-2P, Cinnamaldehyde 119-61-9P, Benzophenone, preparation 124-13-0P, Octanal 134-81-6P, Benzil 5392-40-5P, Citral 15008-36-3DP, Bis(4-diethylamino-2-methylphenyl)phenylmethane, oxidized products  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(process for the selective oxidn. of org. compds. using ferromagnetic chromium dioxide followed by magnetic sepn. of the used oxidant)

L46 ANSWER 12 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:1004569 CAPLUS

DN 124:174966

TI A mild 10-I-4 iodine oxide oxidant for primary and secondary alcohols

AU Stickley, Sharon H.; Martin, J. C.

CS Department Chemistry, Vanderbilt University, Nashville, TN, 37235, USA

SO Tetrahedron Letters (1995), 36(50), 9117-20

CODEN: TELEAY; ISSN: 0040-4039

PB Elsevier

DT Journal

LA English

OS CASREACT 124:174966

AB Iodine oxide I mildly and rapidly oxidizes primary and secondary alcs. to their corresponding carbonyl products in excellent yield. Oxidns. are carried out in CH<sub>2</sub>Cl<sub>2</sub> at room temp. using 1.1 equiv of oxidant. Other non-hydroxylic org. solvents may also be used.

IT 57-88-5, Cholest-5-en-3-ol (3.beta.)-, reactions 98-00-0, Furfuryl alcohol **106-24-1**, Geraniol 431-47-0, Methyl trifluoroacetate 586-98-1, 2-Pyridylcarbinol 699-12-7, 2-(Phenylthio)ethanol 1076-44-4, Pentafluorophenyl lithium 4187-87-5, 1-Phenyl-2-propyn-1-ol 7228-47-9, .alpha.-Methyl-2-naphthalenemethanol 7314-44-5, 2,4-Dimethoxybenzyl alcohol 18982-54-2, 2-Bromobenzyl alcohol 63488-10-8 **65487-67-4**, 2,2,2-Trifluoro-1-(9-anthryl)ethanol  
RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. and use of iodine oxide as an oxidant for primary and secondary alcs.)

- IT 93-08-3P, Methyl 2-naphthyl ketone 98-01-1P, Furfuraldehyde, preparation  
141-27-5P, Geranaldehyde 601-57-0P, Cholesterol 613-45-6P,  
2,4-Dimethoxybenzaldehyde 1121-60-4P, 2-Pyridylcarboxaldehyde  
3771-56-0P 6630-33-7P, 2-Bromobenzaldehyde **53531-31-0P**  
66303-55-7P, 2-(Phenylthio)acetaldehyde 173681-61-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and use of iodine oxide as an oxidant for primary and secondary alcs.)

L46 ANSWER 13 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:425124 CAPLUS

DN 123:197968

TI Oxidation by polychromates

AU Carlsen, P. H. J.; Kjaerstad, Cathrine; Aasboe, Kari

CS Dep. Chem., Univ. Trondheim-NTH, Trondheim, N-7034, Norway

SO Acta Chemica Scandinavica (1995), 49(2), 152-4

CODEN: ACHSE7; ISSN: 0904-213X

PB Munksgaard

DT Journal

LA English

AB The oligomeric chromates, potassium trichromate, K<sub>2</sub>Cr<sub>3</sub>O<sub>10</sub>, (K<sub>3</sub>C), and potassium tetrachromate K<sub>2</sub>Cr<sub>4</sub>O<sub>13</sub>, (K<sub>4</sub>C), are sol. in solvents such as acetone, acetonitrile, Et acetate, DMF and THF. Solns. of K<sub>3</sub>C or K<sub>4</sub>C in acetonitrile readily oxidized alcs. to the corresponding aldehydes or ketones in moderate to good yields.

- IT **78-70-6**, Linalool 89-78-1, Menthol 98-52-2,  
4-tert-Butylcyclohexanol 98-85-1, 1-Phenylethanol 100-51-6, Benzyl alcohol, reactions 100-53-8, Phenylmethanethiol 104-54-1, Cinnamyl alcohol 105-13-5, 4-Methoxybenzyl alcohol **106-22-9**, Citronellol **106-24-1**, Geraniol **120-12-7**, Anthracene, reactions 124-76-5, Isoborneol 281-23-2, Adamantane 473-67-6, Verbenol 615-29-2, 4-Methyl-3-hexanol 873-76-7, 4-Chlorobenzyl alcohol 1632-73-1, Fenchyl alcohol 7778-50-9, Potassium dichromate 12422-53-6 18228-43-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidn. by polychromates)

- IT 76-22-2P, Camphor 80-57-9P, Verbenone **84-65-1P**, Anthraquinone 89-80-5P, Menthone 98-53-3P, 4-tert-Butylcyclohexanone 98-86-2P,  
Acetophenone, preparation 100-52-7P, Benzaldehyde, preparation 104-55-2P, Cinnamaldehyde 104-88-1P, 4-Chlorobenzaldehyde, preparation 106-23-0P, Citronellal 123-11-5P, 4-Methoxybenzaldehyde, preparation 150-60-7P, Dibenzyl disulfide 768-95-6P, 1-Adamantanol 1195-79-5P, Fenchone 5392-40-5P, Citral 6640-25-1P, 4-Chlorophenyl cyclopropyl ketone 17042-16-9P, 4-Methyl-3-hexanone

RL: SPN (Synthetic preparation); PREP (Preparation)

(oxidn. by polychromates)

L46 ANSWER 14 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:656952 CAPLUS

DN 121:256952

TI A study of the oxidative degradation of polyolefins

AU Sipinen, Alan J.; Rutherford, Denise R.

CS Disposable Prod. Div., 3M Co., St. Paul, MN, 55144, USA

SO Journal of Environmental Polymer Degradation (1993), 1(3), 193-202

CODEN: JEPDED; ISSN: 1064-7546

DT Journal

LA English

AB The oxidative degrdn. of polyolefins in the presence of transition-metal catalysts is well known in the patent and tech. literature. It has been suggested that a properly designed oxidatively degradable polymer could be



used in limited-lifetime articles and also on those whose primary method of disposal is composting, wherein the thermal activity is used to accelerate the oxidn. process. The results of a detailed study of transition-metal reactivity in the presence of numerous oxidn.-promoting species in polyolefins are presented. The oxidative degrdn. of these polyolefins was demonstrated at moderate temps. under air and in a simulated compost environment. Approaches to detg. the ultimate fate of these materials are discussed.

IT 57-11-4, Octadecanoic acid, uses 60-33-3, Linoleic acid, uses 65-85-0, Benzoic acid, uses **92-83-1**, Xanthene 97-53-0, Eugenol 104-55-2, Cinnamaldehyde 111-02-4, Squalene 112-80-1, 9-Octadecenoic acid (Z)-, uses 112-88-9, 1-Octadecene 112-90-3, Oleylamine 124-26-5, Stearamide 143-07-7, Dodecanoic acid, uses 150-60-7, Dibenzyl disulfide 301-02-0, Oleamide **4602-84-0** 7235-40-7, Betacarotene 25103-12-2, Triisooctyl phosphite 25322-69-4, Poly(propylene glycol) 38433-95-3, Propyl linoleate  
RL: CAT (Catalyst use); USES (Uses)  
(oxidative degrdn. of polyolefins in presence of transition-metal catalysts and)

L46 ANSWER 15 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:629979 CAPLUS

DN 121:229979

TI Quinolinium fluorochromate (QFC), C<sub>9</sub>H<sub>7</sub>NH[CrO<sub>3</sub>F]: an improved Cr(VI)-oxidant for organic substrates

AU Chaudhuri, Mihir K.; Chettri, Shiv K.; Lyndem, Synjukta; Paul, Pradip C.; Srinivas, Pendyala

CS Dep. Chem., North-Eastern Hill Univ., Shillong, 793003, India

SO Bulletin of the Chemical Society of Japan (1994), 67(7), 1894-8  
CODEN: BCSJA8; ISSN: 0009-2673

DT Journal

LA English

OS CASREACT 121:229979

AB Yellow-orange cryst. quinolinium fluorochromate (QFC) is easily prepd. in a nearly quant. yield by the interaction of quinoline with CrO<sub>3</sub> and hydrofluoric acid in 1:1.5:1 molar ratio. The reagent is stable. Compared with pyridinium fluorochromate (PFC), the new reagent is more sol. in org. solvents and less acidic. QFC in CH<sub>2</sub>Cl<sub>2</sub> readily oxidizes primary, secondary, and allylic alcs. to the corresponding carbonyls, benzoin to benzil, and anthracene and phenanthrene to anthraquinone and 9,10-phenanthrenequinone, resp. Oxidns. work well also in a variety of sensitive environments, e.g., isopropylidene functionality and trimethylsilyl ethers. Org. sulfides are transformed to sulfoxides at room temp. The facile oxidn. of triphenylphosphine to triphenylphosphine oxide by QFC in CH<sub>2</sub>Cl<sub>2</sub> or CH<sub>3</sub>CN provides clear evidence for an oxygen-transfer reaction. The reduced product of QFC, isolated after such reactions, was ascertained to be C<sub>9</sub>H<sub>7</sub>NH[CrO<sub>2</sub>F], a chromium(IV) species. The advantages of QFC are highlighted.

IT 67-63-0, Isopropanol, reactions 71-36-3, 1-Butanol, reactions 85-01-8, Phenanthrene, reactions 100-51-6, Benzyl alcohol, reactions **106-22-9**, Citronellol 108-93-0, Cyclohexanol, reactions 119-53-9, Benzoin **120-12-7**, Anthracene, reactions 139-66-2, Diphenyl sulfide 582-52-5 603-35-0, Triphenylphosphine, reactions 2117-24-0 6814-80-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidn. of, with quinolinium fluorochromate)

IT 84-11-7P, 9,10-Phenanthrenedione **84-65-1P**, 9,10-Anthraquinone 106-51-4P, p-Benzoquinone, preparation 791-28-6P, Triphenylphosphine oxide 945-51-7P, Diphenyl sulfoxide 2847-00-9P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, by oxidn. of org. substrate with quinolinium fluorochromate)

L46 ANSWER 16 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1992:105264 CAPLUS  
DN 116:105264  
TI Highly efficient oxygen transfer reactions from various heteroaromatic N-oxides to olefins, alcohols, and sulfides catalyzed by ruthenium porphyrin  
AU Higuchi, Tsunehiko; Ohtake, Hiro; Hirobe, Masaaki  
CS Fac. Pharm. Sci., Univ. Tokyo, Tokyo, 113, Japan  
SO Tetrahedron Letters (1991), 32(50), 7435-8  
CODEN: TELEAY; ISSN: 0040-4039  
DT Journal  
LA English  
OS CASREACT 116:105264  
AB Ruthenium porphyrin RuTMP(O)<sub>2</sub> (TMP = tetramesitylporphyrinato) catalyzed the oxygen transfer reactions from various heteroarom. N-oxides to olefins, alcs., and sulfides to afford epoxides, aldehydes, and sulfoxides, resp., in satisfactory yield. Thus, oxidn. of benzyl alc. with lutidine N-oxide in benzene in the presence RuTMP(O)<sub>2</sub> afforded 81% BzH.  
IT 1076-28-4 **10399-73-2**, Acridine oxide 22978-83-2, Tetramethylpyrazine N-oxide 22978-84-3, Tetramethylpyrazine dioxide 25974-26-9, 3,6-Dichloropyridazine oxide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidant, for styrene)  
IT 60-12-8, 2-Phenylethanol 100-51-6, Benzyl alcohol, reactions 100-68-5, Phenyl methyl sulfide 104-54-1, 3-Phenyl-2-propenol **106-24-1**, Geraniol 538-74-9, Benzyl sulfide  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn. of, ruthenium porphyrin as catalyst for)

L46 ANSWER 17 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1989:533340 CAPLUS  
DN 111:133340  
TI Singlet oxygen oxidation of organic compounds using hydrogen peroxide and a molybdate or tungstate catalyst in microemulsion, and application of the method to chemiluminescence  
IN Aubry, Jean Marie  
PA Universite de Lille II, Fr.  
SO Fr. Demande, 14 pp.  
CODEN: FRXXBL  
DT Patent  
LA French  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2612512	A1	19880923	FR 1987-3891	19870320
	FR 2612512	B1	19890630		
	EP 288337	A1	19881026	EP 1988-400651	19880318
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
PRAI	FR 1987-3891		19870320		
OS	CASREACT 111:133340				
AB	Org. compds. are oxidized by singlet O produced from H <sub>2</sub> O <sub>2</sub> in a basic medium using an alkali metal molybdate or tungstate catalyst which is contained in a microemulsion. Application of the method to dioxene or derivs. in the presence of a fluorescer produces chemiluminescence. Thus, a mixt. of Na dodecyl sulfate, BuOH, and CH <sub>2</sub> Cl <sub>2</sub> was stirred, treated with an aq. soln. of Na molybdate, Na <sub>2</sub> CO <sub>3</sub> , and NaHCO <sub>3</sub> , and stirred to give a clear microemulsion. A mixt. of 10 g .alpha.-terpinene and 230 mL microemulsion was stirred to clarity and treated portionwise with 18 mL 30% H <sub>2</sub> O <sub>2</sub> over 90 min at 30.degree. and worked up by rotary evapn. at 40.degree. and extn. with hexane to give 70% ascaridole. Similar oxidn.				

of 2,3-bis[4-(N,N-dimethylamino)phenyl]-1,4-dioxene with a BuOH-benzene-H<sub>2</sub>O-based emulsion contg. Na molybdate in the presence of, e.g., rhodamine 6G, gave chemiluminescence for approx. 2 min upon addn. of 30% H<sub>2</sub>O<sub>2</sub>.

IT 989-38-8, Rhodamine 6G **10075-85-1**, 9,10-

Bis(phenylethynyl)anthracene

RL: RCT (Reactant); RACT (Reactant or reagent)

(fluorescer, for chemiluminescent oxidn. of bis(dimethylaminophenyl)dioxene by singlet oxygen)

IT 99-86-5, .alpha.-Terpinene **106-22-9**, .beta.-Citronellol

479-33-4, Tetracyclone 517-51-1, Rubrene **1499-10-1**,

9,10-Diphenylanthracene 5035-30-3, Ergosterol benzoate 5471-63-6,

1,3-Diphenylisobenzofuran 30541-56-1, Adamantylidene adamantane

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidn. of, via singlet oxygen, using hydrogen peroxide and molybdate catalyst in microemulsion)

IT **15257-17-7P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of, by oxidn. of diphenylanthracene using hydrogen peroxide and molybdate catalyst in microemulsion)

L46 ANSWER 18 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1989:74449 CAPLUS

DN 110:74449

TI Barium ferrate monohydrate, BaFeO<sub>4</sub>.H<sub>2</sub>O. A useful oxidant for the oxidation of organic compounds under aprotic conditions

AU Firouzabadi, Habib; Mohajer, Daryoush; Entezari-Moghadam, Mohsen

CS Chem. Dep., Shiraz Univ., Shiraz, Iran

SO Bulletin of the Chemical Society of Japan (1988), 61(6), 2185-9

CODEN: BCSJA8; ISSN: 0009-2673

DT Journal

LA English

OS CASREACT 110:74449

AB BaFeO<sub>4</sub>.H<sub>2</sub>O was prepd. and shown to be a reagent capable of oxidizing different org. compds. Primary and secondary alcs. are converted to their carbonyl compds., .alpha.-hydroxy ketones to their diketones, and hydroquinones to their quinones. Arom. amines are converted to their azo compds., benzylamine to benzaldehyde, phenylhydrazones and oximes to their carbonyl compds. Thiols are also converted to their disulfides in high yields.

IT 62-53-3, Aniline, reactions **72-48-0**, Alizarin 91-01-0,

Benzhydrol 98-00-0, Furfuryl alcohol 98-85-1, 1-Phenylethanol

99-09-2, m-Nitroaniline 100-01-6, p-Nitroaniline, reactions 100-16-3,

p-Nitrophenylhydrazine 100-46-9, Benzylamine, reactions 100-51-6,

Benzyl alcohol, reactions 100-53-8, .alpha.-Toluenethiol 100-63-0

104-54-1, Cinnamyl alcohol **106-22-9**, Citronellol 106-47-8,

p-Chloroaniline, reactions 106-49-0, p-Toluidine, reactions 108-40-7,

m-Thiocresol 108-42-9, m-Chloroaniline 108-93-0, Cyclohexanol,

reactions 108-98-5, Thiophenol, reactions 109-79-5, 1-Butanethiol

111-70-6, 1-Heptanol 119-26-6, 2,4-Dinitrophenylhydrazine 119-53-9,

Benzoin 120-80-9, Catechol, reactions 123-31-9, Hydroquinone,

reactions 134-32-7, 1-Naphthylamine 149-30-4, 2(3H)-

Benzothiazolethione 552-86-3, Furoin 574-61-8, Benzophenone

phenylhydrazone 574-66-3, Benzophenone oxime 619-73-8, p-Nitrobenzyl

alcohol 622-73-1, p-Anisaldehyde phenylhydrazone 1569-69-3,

Cyclohexanethiol 3848-36-0, p-Chlorobenzaldehyde oxime 4676-54-4

24091-02-9, 2-Naphthaldehyde oxime 30884-63-0 69423-23-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidn. of, with barium ferrate)

L46 ANSWER 19 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1988:631324 CAPLUS

DN 109:231324  
 TI Photosensitized oxidation of phytol in seawater  
 AU Rontani, J. F.; Giusti, G.  
 CS Cent. Oceanol., Fac. Sci. Luminy, Marseille, 13288, Fr.  
 SO Journal of Photochemistry and Photobiology, A: Chemistry (1988), 42(2-3), 347-55  
 CODEN: JPPCEJ; ISSN: 1010-6030  
 DT Journal  
 LA English  
 AB In synthetic seawater contg. traces of anthraquinone, phytol is photooxidized rapidly by solar radiation. The photochem. processes lead mainly to the formation of 2,6,10-trimethyltridecane, 6,10,14-trimethyl-2-pentadecanone, pristanal, and phytenal. In order to explain the formation of these different compds., mechanisms which first involve abstraction reactions of hydrogen atoms in an allylic position are proposed. These results suggest a nonnegligible photodegrdn. of the free phytol in seawater before its incorporation into the marine sediments.  
 IT **150-86-7**, Phytol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (photosensitized **oxidn.** of, in synthetic seawater, mechanism of)  
 IT **84-65-1**, Anthraquinone  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (photosensitizer, for oxidn. of phytol in synthetic seawater)  
 L46 ANSWER 20 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1988:492434 CAPLUS  
 DN 109:92434  
 TI Rhodium catalyzed oxidation of organic compounds with tert-butyl hydroperoxide  
 AU Muller, Paul; Idmoumaz, Hamid  
 CS Dep. Chim. Org., Univ. Geneve, CH-1211, Switz.  
 SO Journal of Organometallic Chemistry (1988), 345(1-2), 187-99  
 CODEN: JORCAI; ISSN: 0022-328X  
 DT Journal  
 LA English  
 OS CASREACT 109:92434  
 AB Oxidn. of anthracene or a terminal olefin such as Me(CH<sub>2</sub>)<sub>5</sub>CH:CH<sub>2</sub> (I) with Me<sub>3</sub>COOH in the presence of RhCl(PPh<sub>3</sub>)<sub>3</sub> gave 96 and 98% anthraquinone and Me(CH<sub>2</sub>)<sub>5</sub>COME (II), resp. A similar oxidn. of Me<sub>2</sub>C:CM<sub>2</sub> gave 71% epoxide III. Alcs., e.g. PhCH<sub>2</sub>OH and PhCH(OH)Me also underwent oxidn. to give 51 and 98% PhCHO and PhCOMe, resp. The formation of II from I is believed to be due to a metal-centered mechanism rather than to a free radical pathway.  
 IT **106-24-1**, Geraniol 122-97-4, 3-Phenyl-1-propanol 931-88-4, Cyclooctene 14850-23-8, trans-4-Octene 31502-14-4, trans-2-Nonenol  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (attempted **oxidn.** of, by tert-Bu hydroperoxide)  
 IT 111-66-0, 1-Octene **120-12-7**, Anthracene, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (oxidn. of, with tert-Bu hydroperoxide)  
 IT 65-85-0P, Benzoic acid, preparation **84-65-1P**, Anthraquinone  
 98-86-2P, Acetophenone, preparation 103-79-7P 111-13-7P, 2-Octanone  
 529-34-0P 4013-34-7P 5076-20-0P 10473-13-9P 77525-91-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. of)  
 L46 ANSWER 21 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1988:473305 CAPLUS  
 DN 109:73305  
 TI Preparation of epoxy compounds by liquid-phase oxidation of double bond-containing compounds

IN Tabusa, Iwao; Kodera, Masato; Morimitsu, Kozo  
PA Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62205068	A2	19870909	JP 1986-47272	19860306
PRAI	JP 1986-47272		19860306		

AB Epoxy compds. were prepd. by liq. phase oxidn. of C-C double bond-contg. compds. in the presence of metal porphyrin, imidazoles, acid anhydrides, nicotinamides, and optionally flavins. Thus, mixing cyclohexene, Mn tetra(4-sulfophenyl)porphinate, 1-methylimidazole, FMN, benzoic anhydride, and methyl dihydronicotinamide in EtOH and phosphate buffer at 25.degree. under O gave 90% cyclohexene oxide and 10% cyclohexenone.

IT **83-88-5**, Riboflavin, uses and miscellaneous 85-44-9, Phthalic anhydride 93-97-0, Benzoic anhydride 108-24-7, Acetic anhydride 108-30-5, Succinic anhydride, uses and miscellaneous 108-31-6, Maleic anhydride, uses and miscellaneous 123-62-6, Propionic anhydride 146-14-5, Flavin adenine dinucleotide 146-17-8, Flavin mononucleotide 288-32-4, Imidazole, uses and miscellaneous 616-47-7, 1-Methylimidazole 693-98-1, 2-Methylimidazole 952-92-1 1094-61-7 17750-23-1 32195-55-4 58880-44-7 73215-30-2 83006-36-4 115503-79-2  
RL: CAT (Catalyst use); USES (Uses)

(catalyst, for liq.-phase oxidn. of olefins)  
IT **106-25-2**, Nerol 110-83-8, Cyclohexene, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(liq.-phase oxidn. of, catalysts for)

L46 ANSWER 22 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1986:590191 CAPLUS  
DN 105:190191

TI Chromium(VI) based oxidants. 1. Chromium peroxide complexes as versatile, mild, and efficient oxidants in organic synthesis  
AU Firouzabadi, H.; Iranpoor, N.; Kiaeezadeh, F.; Toofan, J.  
CS Dep. Chem., Shiraz Univ., Shiraz, Iran  
SO Tetrahedron (1986), 42(2), 719-25  
CODEN: TETRAB; ISSN: 0040-4020

DT Journal  
LA English

OS CASREACT 105:190191

AB The prepn. of 2,2'-bipyridylchromium peroxide (I), pyridinechromium peroxide (II), and chromium peroxide etherate (III) is described. I converts different classes of alcs. to the carbonyl compds. In 1,2-diols, C-C bond cleavage occurs extensively. .alpha.-Hydroxy acids are decarboxylated quant. Oximes are converted to their carbonyl compds. and thiols to their disulfides, dihydroxyphenolic compds. to quinones, benzylamine to benzaldehyde, arom. amines to their azo compds., anthracene and phenanthrene to their quinones. II converts different classes of alcs. efficiently to the carbonyl compds., thiols to their disulfides, anthracene to anthraquinone. Mandelic and benzilic acids are decarboxylated very efficiently. III is an efficient reagent for the oxidn. of different classes of alcs. to their carbonyl compds.

IT 53-43-0 57-88-5, reactions 62-53-3, reactions 76-93-7, reactions 85-01-8, reactions 90-64-2 91-01-0 93-54-9 93-56-1 94-67-7 100-46-9, reactions 100-51-6, reactions 100-53-8 104-54-1 105-13-5 **106-22-9** 106-49-0, reactions 108-93-0, reactions 108-98-5, reactions 109-79-5 111-70-6 119-53-9 **120-12-7**, reactions 120-80-9, reactions 123-31-9, reactions 123-96-6 134-32-7 149-30-4 492-70-6 495-76-1 552-86-3 571-60-8 612-14-6 613-91-2 614-29-9

619-73-8 932-90-1 1569-69-3 3848-36-0 5471-97-6 6814-80-8  
13213-36-0 65469-88-7 103386-80-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn. of, with chromium peroxide complex)

IT **84-65-1P**

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, by oxidn. of anthracene with chromium peroxide complex)

L46 ANSWER 23 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1986:575847 CAPLUS

DN 105:175847

TI Solar synthesis: new techniques for photochemical reactions using natural sunlight

AU Guillet, J. E.; MacInnis, W. K.; Redpath, A. E.

CS Solarchem Corp., Willowdale, ON, M2H 3B4, Can.

SO INTERSOL 85, Proc. Bienn. Congr. Int. Sol. Energy Soc., 9th (1986),  
Meeting Date 1985, Volume 3, 1877-81. Editor(s): Bilgen, E.; Hollands, K.  
G. T. Publisher: Pergamon, New York, N. Y.

CODEN: 55EBAL

DT Conference

LA English

AB A new inexpensive method for carrying out com.-scale org. photochem.  
syntheses was developed using sunlight as the photon source. Org.  
starting materials are absorbed into transparent beads of crosslinked  
polymer that serve as transportable, re-usable mini-reactors. These beads  
float readily on water and can be exposed to natural sunlight on the  
surface of a small pond. After exposure, the beads are collected and the  
chem. products removed by selective extn. with suitable solvent mixts.  
The beads can then be recycled through the process. The lab.-scale expts.  
demonstrate the viability of the process; calcns. are presented to show  
the prodn. scales attainable in a com. solar photochem. plant.

IT **106-22-9**

RL: USES (Uses)

(isomeric allyl hydroperoxide manuf. from, by photosensitized singlet  
oxygen addn., in polymer transparent bead photoreactor)

IT **2321-07-5 11121-48-5 14459-29-1 16423-68-0**

**17372-87-1**

RL: USES (Uses)

(photosensitizers, in citronellol conversion to hydroperoxide, in  
polymer transparent bead photoreactor)

L46 ANSWER 24 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1985:148319 CAPLUS

DN 102:148319

TI Bis(2,2'-bipyridyl)copper(II) permanganate (BBCP): a mild and versatile  
oxidant in organic synthesis

AU Firouzabadi, H.; Sardarian, A. R.; Naderi, M.; Vessal, B.

CS Dep. Chem., Shiraz Univ., Shiraz, Iran

SO Tetrahedron (1984), 40(23), 5001-4

CODEN: TETRAB; ISSN: 0040-4020

DT Journal

LA English

OS CASREACT 102:148319

AB BBCP was prepd. and used to oxidize alcs. to the corresponding carbonyl  
compds., .alpha.-hydroxy ketones to diketones, hydroquinone to  
p-benzoquinone, and compds. with benzylic double bonds to benzaldehyde in  
high yield. Benzophenone oxime, acetophenone oxime and various  
benzaldoximes are converted to the corresponding carbonyl compds., arom.  
amines to azo compds., and benzylamine to benzaldehyde, usually in high  
yields, under mild conditions.

IT **81-64-1 88-74-4 90-64-2 91-01-0 94-41-7 94-67-7**

98-00-0 100-01-6, reactions 100-42-5, reactions 100-46-9, reactions

100-51-6, reactions 100-53-8 101-81-5 104-54-1 104-55-2  
**106-22-9** 106-47-8, reactions 106-49-0, reactions 108-98-5,  
 reactions 119-53-9 122-57-6 123-31-9, reactions 134-32-7  
 495-76-1 552-86-3 574-66-3 612-14-6 613-91-2 619-73-8  
 2089-36-3 3235-04-9 3431-62-7 3848-36-0 4070-75-1 4676-54-4  
 4707-72-6 4720-82-5 6635-41-2 59611-38-0 65469-88-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (oxidn. of, with bis(bipyridyl)copper permanganate)

L46 ANSWER 25 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1984:472004 CAPLUS  
 DN 101:72004  
 TI Generation of singlet oxygen from excited singlet states  
 AU Davidson, R. Stephen; Goodwin, Dean; Pratt, Julie E.  
 CS Dep. Chem., City Univ., London, EC1V 0HB, UK  
 SO Oxygen Radicals Chem. Biol., Proc., Int. Conf., 3rd (1984), Meeting Date  
 1983, 473-8. Editor(s): Bors, Wolf; Saran, Manfred; Tait, David.  
 Publisher: de Gruyter, Berlin, Fed. Rep. Ger.  
 CODEN: 51IDAJ  
 DT Conference  
 LA English  
 AB Solvent isotope effects showed that the direct photooxidn. of highly  
 fluorescent anthracenes involves the prodn. of singlet O from the  
 quenching of anthracene excited-singlet states by O. Also, the  
 observation of a solvent isotope effect in the photooxidn. of (Me<sub>3</sub>C)<sub>2</sub>S,  
 sensitized by excimers and by excited charge-transfer complexes, indicates  
 that singlet O is involved in the reaction. The singlet O was generated  
 by energy transfer from triplets produced by decay of the excited-singlet  
 complexes. On the other hand, the solvent isotope effect obsd. in the  
 direct photooxidn. of 1,3-diphenyl-2-pyrazoline resulted from an isotope  
 effect upon the photophys. properties of the excited substrate, and does  
 not indicated involvement of singlet O in the reaction.  
 IT **120-12-7**, reactions **779-02-2 781-43-1**  
**1499-10-1** 2538-52-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (photooxidn. of, solvent isotope effects on)  
 IT **106-22-9**  
 RL: PRP (Properties)  
 (photoxidn. of, role of singlet **oxygen** in)  
 IT **11121-48-5** 35310-62-4  
 RL: PRP (Properties)  
 (sensitizer, for photooxidn. of di-tert-Bu sulfide, solvent isotope  
 effects on)

L46 ANSWER 26 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1983:594222 CAPLUS  
 DN 99:194222  
 TI Factors affecting dye-sensitized photooxidation reactions; the effect of  
 oxygen concentration and its use to probe the mechanism of decarboxylation  
 of .alpha.-oxocarboxylic acids and esters  
 AU Davidson, R. Stephen; Goodwin, Dean; Pratt, Julie E.  
 CS Dep. Chem., City Univ., London, EC1V 0HB, UK  
 SO Tetrahedron (1983), 39(14), 2373-9  
 CODEN: TETRAB; ISSN: 0040-4020  
 DT Journal  
 LA English  
 AB The dye sensitized photooxidn. of .alpha.-oxocarboxylic acids and esters  
 gives CO<sub>2</sub>. The yield of CO<sub>2</sub> depends on the O concn. This, together with  
 the fact that CO<sub>2</sub> evolution can be obsd. in the absence of O, agrees with  
 the view that the decarboxylations involve an initial dye-substrate  
 interaction rather than a singlet O mediated reaction.  
 IT **106-22-9**

RL: RCT (Reactant); RACT (Reactant or reagent)  
(photochem. oxidn. of, in presence of Rose Bengal sensitizer)

IT 81-88-9 917-23-7 **16423-68-0**

RL: PRP (Properties)  
(sensitizer, for photochem. decarboxylation of Me pyruvate)

IT **61-73-4 11121-48-5**

RL: PRP (Properties)  
(sensitizer, for photochem. decarboxylation of oxo carboxylic acids and esters)

L46 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1981:133829 CAPLUS

DN 94:133829

TI Effects of tobacco smoke compounds on the noradrenaline induced oxidative metabolism in isolated brown fat cells

AU Pettersson, Bertil; Curvall, Margareta; Enzell, Curt R.

CS Wenner-Gren Inst., Univ. Stockholm, Stockholm, S-113 45, Swed.

SO Toxicology (1980), 18(1), 1-15

CODEN: TXCYAC; ISSN: 0300-483X

DT Journal

LA English

AB The effect on cell metab. of 320 individual smoke components was investigated by measuring their inhibition of noradrenaline-induced respiration in isolated hamster brown fat cells. The compds. are representative of the gaseous and semivolatile phases of tobacco smoke. The strongest inhibitors were the aliph. alcs., aldehydes, and acids, alkylated phenols and indoles, and of .alpha.,.beta.-unsatd. aliph. aldehydes and ketones. Some of the aliph. aldehydes and acids significantly increased the basal respiration of the cells, probably by acting as substrates and/or uncoupling of mitochondrial respiratory control.

IT 50-32-8, biological studies 51-17-2 54-11-5 **56-55-3**  
57-10-3, biological studies 57-55-6, biological studies 59-67-6,  
biological studies 60-12-8 62-53-3, biological studies 64-18-6,  
biological studies 64-19-7, biological studies 65-85-0, biological  
studies 66-25-1 67-47-0 67-63-0, biological studies 67-64-1,  
biological studies 71-43-2, biological studies 75-05-8, biological  
studies 78-82-0 78-84-2 78-85-3 78-93-3, biological studies  
78-94-4, biological studies 79-77-6 80-56-8 83-32-9 83-33-0  
83-34-1 84-66-2 84-74-2 85-01-8, biological studies 85-44-9  
86-28-2 86-53-3 86-74-8 87-51-4, biological studies 87-59-2  
87-62-7 87-66-1 88-05-1 89-81-6 90-00-6 90-02-8, biological  
studies 90-05-1 90-12-0 90-15-3 91-10-1 91-20-3, biological  
studies 91-22-5, biological studies 91-55-4 91-57-6 91-59-8  
91-64-5 93-04-9 93-18-5 95-13-6 95-20-5 95-47-6, biological  
studies 95-48-7, biological studies 95-53-4, biological studies  
95-65-8 95-78-3 95-87-4 96-17-3 96-33-3 97-53-0 97-54-1  
98-00-0 **98-55-5** 98-82-8 98-86-2, biological studies  
99-49-0 99-93-4 100-21-0, biological studies 100-41-4, biological  
studies 100-42-5, biological studies 100-46-9, biological studies  
100-47-0, biological studies 100-51-6, biological studies 100-52-7,  
biological studies 100-66-3, biological studies 100-83-4 100-84-5  
101-81-5 101-84-8 103-41-3 103-65-1 103-69-5 103-73-1 104-53-0  
104-55-2 104-85-8 104-87-0 104-93-8 105-53-3 105-67-9 106-21-8  
**106-24-1** 106-42-3, biological studies 106-44-5, biological  
studies 106-49-0, biological studies 107-02-8, biological studies  
107-11-9 107-12-0 107-13-1, biological studies 107-87-9 108-05-4,  
biological studies 108-38-3, biological studies 108-39-4, biological  
studies 108-44-1, biological studies 108-46-3, biological studies  
108-48-5 108-50-9 108-67-8, biological studies 108-68-9 108-75-8  
108-88-3, biological studies 108-94-1, biological studies 108-95-2,  
biological studies 109-00-2 109-08-0 109-73-9, biological studies



109-74-0 109-96-6 109-97-7 109-99-9, biological studies 110-00-9  
 110-00-9D, derivs. 110-02-1 110-54-3, biological studies 110-59-8  
 110-62-3 110-82-7, biological studies 110-83-8, biological studies  
 110-86-1, biological studies 110-93-0 111-26-2 111-27-3, biological  
 studies 111-61-5 111-71-7 111-87-5, biological studies 112-05-0  
 112-30-1 112-31-2 112-44-7 112-54-9 114-33-0 116-26-7 119-64-2  
**120-12-7**, biological studies 120-14-9 120-51-4 120-72-9,  
 biological studies 120-80-9, biological studies 120-92-3 121-33-5  
 121-71-1 122-39-4, biological studies 122-78-1 123-07-9 123-08-0  
 123-11-5, biological studies 123-15-9 123-31-9, biological studies  
 123-38-6, biological studies 123-72-8 123-75-1, biological studies  
 124-07-2, biological studies 124-12-9 124-13-0 124-19-6 127-41-3  
 127-91-3 129-00-0, biological studies 131-16-8 132-64-9 134-32-7  
 135-02-4 135-19-3, biological studies 138-86-3 139-85-5 140-11-4  
 140-29-4 141-10-6 141-79-7 142-62-1, biological studies 142-83-6  
 150-19-6 150-76-5 191-07-1 **198-55-0** 206-44-0 208-96-8  
 218-01-9 244-63-3 275-51-4 290-37-9 334-48-5 431-03-8 432-25-7  
 486-25-9 486-84-0 487-19-4 487-68-3 487-89-8 488-17-5 490-79-9  
 492-27-3 495-40-9 496-11-7 496-78-6 499-74-1 500-22-1 505-57-7  
 526-75-0 527-60-6 529-19-1 529-20-4 536-74-3 536-78-7 571-58-4  
 576-26-1 578-54-1 578-58-5 582-24-1 589-16-2 590-86-3 592-43-8  
 592-46-1 600-14-6 603-76-9 613-46-7 614-96-0 620-02-0 620-17-7  
 620-22-4 620-23-5 621-82-9, biological studies 623-36-9 625-33-2

RL: BIOL (Biological study)

(of tobacco smoke, noradrenaline-induced **oxidative** metab. in  
 brown fat cells response to)

IT 625-86-5 628-73-9 629-08-3 629-76-5 630-19-3 634-36-6 645-59-0  
 697-82-5 698-71-5 771-51-7 814-78-8 874-63-5 875-30-9 875-79-6  
 928-68-7 930-68-7 933-67-5 1002-84-2 1004-66-6 1007-32-5  
 1194-98-5 1196-79-8 1462-84-6 1490-04-6 1570-48-5 1604-28-0  
 1629-58-9 1971-46-6 2016-57-1 2138-48-9 2305-21-7 2408-37-9  
 2571-52-0 3189-12-6 4028-66-4 4170-30-3 4360-47-8 4427-56-9  
**4602-84-0** 5724-56-1 5779-94-2 6575-13-9 10299-63-5  
 13730-09-1 14804-32-1 14920-89-9 15764-16-6 18936-17-9  
 20469-61-8 20490-42-0 21296-92-4 21789-36-6 22029-76-1  
 22072-35-1 22767-96-0 22884-95-3 25309-65-3 25312-34-9  
 27505-78-8 28473-21-4 34136-57-7 34136-59-9 36653-82-4  
 63493-28-7

RL: BIOL (Biological study)

(of tobacco smoke, noradrenaline-induced **oxidative** metab. in  
 brown fat cells response to)

L46 ANSWER 28 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1980:21780 CAPLUS

DN 92:21780

TI The oxidation of alcohols and aromatic hydrocarbons by dichromate in two  
 phase systems

AU Pletcher, Derek; Tait, Stephen J. D.

CS Dep. Chem., Univ. Southampton, Southampton, UK

SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic  
 Chemistry (1972-1999) (1979), (6), 788-91

CODEN: JCPKBH; ISSN: 0300-9580

DT Journal

LA English

AB A method is described for the oxidn. of primary alcs. to aldehydes and  
 polynuclear arom. hydrocarbons to quinones. The method involves shaking  
 the substrate in an org. solvent with aq. acidic dichromate and a phase  
 transfer agent. The effect of reaction conditions on the selectivity and  
 rate of reaction is discussed. Thus p-MeOC<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>OH with 10M H<sub>2</sub>SO<sub>4</sub> and a  
 stoichiometric amt. of Cr<sub>2</sub>O<sub>7</sub><sup>2-</sup> gave 1% p-MeOC<sub>6</sub>H<sub>4</sub>CHO (I), whereas with 3M  
 H<sub>2</sub>SO<sub>4</sub> and stoichiometric Cr<sub>2</sub>O<sub>7</sub><sup>2-</sup> 93% I was formed. Similarly,  
 2-methylnaphthalene (II) gave 33% 2-methylnaphthaquinone (III) with 10M

H2SO4 and stoichiometric dichromate, whereas with 10M H2SO4 and 100% excess dichromate 56% III is formed.

IT 60-12-8 64-17-5, reactions 71-36-3, reactions 91-20-3, reactions  
91-57-6 100-51-6, reactions 104-54-1 105-13-5 **106-25-2**  
108-93-0, reactions 111-87-5, reactions **120-12-7**, reactions  
122-97-4 123-96-6 589-18-4 619-73-8 770-71-8 873-76-7  
1875-88-3 35289-31-7 36653-82-4

RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn. of, with dichromate in two-phase system)

L46 ANSWER 29 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1974:81734 CAPLUS

DN 80:81734

TI Mechanistic studies regarding the oxidation of alcohols by silver carbonate on celite

AU Kakis, Frederic J.; Fetizon, Marcel; Douchkine, Nicolas; Golfier, Michel; Mourgues, Philippe; Prange, Thierry

CS Dep. Chem., Chapman Coll., Orange, CA, USA

SO Journal of Organic Chemistry (1974), 39(4), 523-33

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

AB The mechanism of the oxidation of alcs. by Ag2CO3 on celite was thoroughly examd. to ascertain the nature of the transition state and the possible intervention of reaction intermediates. Kinetic, stereochem., and isotopic labeling techniques were used to differentiate among the various theor. plausible mechanistic alternatives. The effects of surface adsorption and solvent compn. on the outcome of the reaction were also studied. The data were consistent with a concerted process for which a model is proposed.

IT 71-36-3, reactions 91-01-0 98-85-1 100-51-6 105-13-5  
**106-24-1** 107-18-6, reactions 111-27-3 111-70-6 111-87-5  
112-30-1 123-96-6 612-16-8 619-25-0 626-93-7 765-42-4  
1120-06-5 1224-92-6 1225-47-4 2516-33-8 3594-90-9 7657-50-3  
13513-82-1 14300-33-5 14935-57-0 14935-58-1 19037-31-1  
19037-33-3 20311-10-8 20707-85-1 26549-28-0 32215-75-1

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidn. of, by silver carbonate)

IT 765-43-5P 1121-37-5P 1489-69-6P 4445-34-5P **43187-20-8P**

43187-21-9P 43187-22-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

L46 ANSWER 30 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1960:93426 CAPLUS

DN 54:93426

OREF 54:17734b-c

TI Reversal by .alpha.-tocopherol and other substances of succinoxidase inhibition produced by a Tetrahymena pyriformis preparation

AU Edwin, E. E.; Green, J.

CS Walton Oaks Exptl. Sta., Tadworth, UK

SO Archives of Biochemistry and Biophysics (1960), 87, 337-8

CODEN: ABBIA4; ISSN: 0003-9861

DT Journal

LA Unavailable

AB cf. Eichel, CA 53, 22145f. The inhibition of succinoxidase by prepn. of T. pyriformis was partly, but not completely, reversed by .alpha.-tocopherol, .alpha.-tocopherylquinone, .alpha.-tocopheryl acetate, .gamma.-tocopherol, phytol, ubiquinone, and methylene blue. Inhibition was not reversed by vitamin K, and was completely reversed by bovine serum albumin. The inhibition of succinoxidase by Tween 80 was completely reversed by bovine serum albumin and was not reversed by

.alpha.-tocopherol.  
IT 61-73-4, Methylene blue 150-86-7, Phytol 7559-04-8,  
.alpha.-Tocopherylquinone 7616-22-0, .gamma.-Tocopherol 9005-65-6,  
Tween 80 72657-56-8, p-Benzoquinone, (3-hydroxy-3,7,11,15-  
tetramethylhexadecyl)trimethyl-  
(effect on succinic **oxidase** inhibition by Tetrahymena  
pyriformis ext.)